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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/341,232	10/25/1999	VOLKER ERNST	2345/79	4900

26646 7590 07/30/2004

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EXAMINER

FERRIS III, FRED O

ART UNIT	PAPER NUMBER
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2128

DATE MAILED: 07/30/2004

17

Please find below and/or attached an Office communication concerning this application or proceeding.

SC

Office Action Summary

Application No.

09/341,232

Applicant(s)

ERNST ET AL.

Examiner

Fred Ferris

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 1 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-23, 25-28 and 37-45 is/are rejected.
- 7) ☒ Claim(s) 24, and 29-36 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 July 1999 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 28 February 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

1. *A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 27 October 2003 has been entered. Claims 21-45 are currently pending in this application. Claims 21-23, 25-28, and 37-45 remain rejected based on new grounds for rejection. Claims 24, and 29-36 have been objected to as being dependent from a rejected base claim.*

Response to Arguments

2. *Applicant's arguments filed on 1 June 2004 (paper # 16) have been fully considered.*

Regarding applicant's response to 35 U.S.C. 102(b) rejection: *The examiner withdraws the 102(b) rejection in view of applicant's arguments and the amendment to the claims.*

Regarding applicant's response to 35 U.S.C. 112(1) rejection: *The examiner withdraws the 112(1) rejection in view of applicant's arguments and amendment to the specification and the amended claims.*

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Regarding applicant's response to 35 U.S.C. 103(a) rejection: Applicant's arguments with respect to claims 21-45 have been considered but are moot in view of the new ground(s) of rejection. Please see new 103(a) rejections below.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 21-23, 25-28, and 37-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,270,919 issued to Blake et al in view U.S. Patent 5,742,795 issued to Kussel in further view of U.S. Patent 4,847,788 issued to Shimada.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Independent claims 21 and 44 are drawn to:
method & code generating network connecting users to distribution node by steps of:
generating network plan by:

generating network graph where:
edges represent network transmission paths:
edge length & direction determined from territory topography & cable paths
nodes represent intersections of street segments / cable paths
assigning users to graph connected to edge/node via service edge
generating tree structure with one connection between main node and each users,
connection composed of service edge, nodes of tree structure
determining load of edges as function of user requirement
generating network plan

Regarding independent claims 21 and 45: Blake discloses a computerized network planning tool that allows a user to assign network service nodes as a function of user requirements and network parameters such as loading within a particular region (territory) of interest. (Abstract, Summary of Invention, Figs. 2-22)

Blake discloses the elements of the claimed limitations as follows:

- generating network connecting users to distribution node: Blake discloses generating a network (and a plan display: see Figs. 3 and 8) and connecting users to a distribution node (CL3-L48-68, Figs. 3 & 8)*
- network graph representing network transmission paths: Blake discloses a graphical display representing network transmission paths (routes) (CL3-L25-37, Fig. 8).*
- length & direction determined from territory topography & cable paths: Blake discloses network length and direction based on territory (i.e. region) (Background, CL9-L30-37, CL3-L27, CL4-L63-67, Figs 3&8)*
- determining load of edges as function of user requirement: Blake discloses determining network load as a function of user requirements (CL6-L27, CL9-L21-31, Fig 9).*

Blake does not explicitly teach generating a network tree structure or cable paths.

Kussel discloses a network model generating a network topology in the form of a network graph that includes a network tree structure and network cable paths. (Abstract, Summary of Invention, Figs. 4-16)

Kussel discloses the elements of the claimed limitations as follows:

- edge length & direction determined from territory topography & cable paths:

Kussel discloses cable path direction and distance based on the topography within a particular area of interest based on representative network tree branch (edge) orientation. (CL5-L7-61, CL6-L20-49 (especially line 47), CL7-L31, CL9-L35, Tab. 1, Figs. 5-15)

- tree structure with connection between main node and users: Kussel discloses a network tree structure and connections between main nodes and user nodes. (CL1-L39-47, Figs. 9, 12, 13, 14)

Blake further does not explicitly teach node representing the intersection of street segments.

Shimada discloses the use of intersecting map data in determining and representing the intersection of street (road) segments in a power transmission network. (Abstract, Summary of Invention, CL3-L31-35, CL8-L1, 22-25, 29-67, CL16-L27, Figs. 1, 2b, 5-8, 12-19)

It would have been obvious to one having ordinary skill in the art at the time the claimed invention was made to modify the teachings of Blake relating to a network

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planning tool including service nodes, user requirements, network parameters and loading within a particular region (territory), with the teachings of Kussel relating to a network model, network topology, network graph, network tree structure and network cable paths, and to further modify the teachings of Blake with the teachings of Shimada relating to the use of intersecting map data in determining and representing the intersection of street (road) segments in a power transmission network, to realize the claimed invention. An obvious motivation exists since this area of technology is highly competitive with many types of network planning tools available in the market place and large amounts of money being spent in product development and improvement. (see Cooper et al, Related Art (2), for example) Accordingly, a skilled artisan would have made an effort to become aware of what capabilities had already been developed in the market place and, hence, would have been motivated to modify the teachings of Blake with the teachings of Kussel, and to further modify the teaching so Blake with the teachings of Shimada, in order to reduce development time and cost.

Regarding dependent claims 22-23, 25-28, 37-43, and 45: Per claims 22, 23, 27, and 39 – This group of claims is drawn to dimensioning, assigning service (type), and capacity based on tree structure proximity. These features are obvious in view of the prior art as noted above. (see: Kussel CL6-L20-67, Tab. 1, Shimada CL3-L31-35, CL8L1-29, Figs. 3, 8, 9) Per claims 25, 26, 28, 37, 40-43, and 45 – This group of claims merely relates to the application of a specific network technology (i.e. cable, copper wire, fiber (glass) optic, power, etc.) and data base storage techniques, and hence

would have been an obvious (and necessary) design choice in any network panning system in addition to being disclosed in the prior art as noted above. (See: Kussel CL5-L1-CL6-L55, Tab. 1, Figs. 4, 16, Shimada CL3-L31-35, CL16-L27, Figs. 1, 2b, 5-8, 12-19)

Allowable Subject Matter

4. *Claims 24, and 29-36 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicants are encouraged to amend independent claim 21 and 44 to include the limitations of objected to claims 29 or 33 (and intervening claims). At such time the examiner would favorably consider the allowance of independent claims 21 and 44 and their dependent claims.*

Conclusion

5. *The prior art made of record and not relied upon is considered pertinent to applicant's disclosure, careful consideration should be given prior to applicant's response to this Office Action.*

U.S. Patent 6,377,543 issued to Grover et al teaches network path modeling.

U.S. Patent 6,144,942 issued to Weinburg teaches network modeling via graph.

"A Quantitative Comparison of Graph-Based Models for Internet Topography" E.

Zegura, IEEE/ACM Transactions on Networking, 1063-6692/97, 1997, teaches network modeling via graph.

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"Distributed Algorithms for Finding Center and Mediums in Network", E. Korach, ACM Transactions 0164-0925/84/0700-0380, Vol. 6, No. 3, July 1984, teaches network modeling via graph.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred Ferris whose telephone number is 703-305-9670 and whose normal working hours are 8:30am to 5:00pm Monday to Friday.

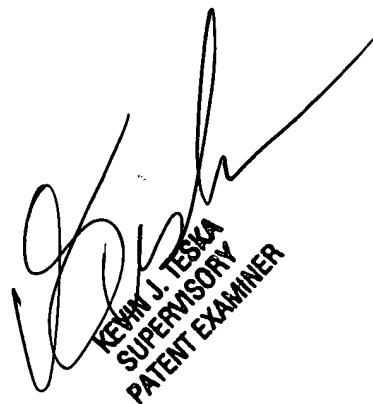
Any inquiry of a general nature relating to the status of this application should be directed to the group receptionist whose telephone number is 703-305-3900.

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July 23, 2004


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